

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1 – 29 (Canceled).

30. (Currently Amended) A method performed by a portable device capable of playing media items, the method comprising:

receiving a media item and n-band graphic equalizer setting values only associated with the received media item from a host device; ~~wherein the host device has greater computational resources than the portable device~~; and

generating m filters to approximate the n-band graphic equalizer settings, where m is less than n, by:

identifying more than m a plurality of filter patterns, in a composite frequency response shape representing the n-band graphic equalizer setting values, each filter pattern corresponding to a predetermined filter type from a set of filter types;

~~for each identified filter pattern~~, creating a plurality of identified filters by identifying ~~creating~~ a filter of the predetermined filter type for each of the more than m identified filter patterns; ~~corresponding to the identified filter pattern~~;

determining parameters for each identified filter of the plurality of filters such that the plurality of identified filters approximates the composite frequency response shape representing the n-band graphic equalizer setting values;

assigning a weighting value priority to each of the plurality of filters, wherein each weighting value is assigned based upon how much of an impact the corresponding filter has on the composite frequency response shape; and

limiting the number of the plurality of identified filters ~~to not more than m~~
~~by selecting the m filters having the highest weighting values based on the~~
~~priority assigned to each of the plurality of filters.~~

31. (Previously Presented) The method of claim 30, wherein the set of filter types comprises a low-shelf filter, a high-shelf filter, and a parametric filter.

32. (Currently Amended) The method of claim 31, wherein the creating identifying
~~the plurality of filter patterns in the composite frequency response shape representing~~
~~the n-band graphic equalizer setting values~~ comprises identifying at most one low-shelf filter pattern, at most one high-shelf filter pattern, and one or more parametric filter patterns in the composite frequency response shape representing the n-band graphic equalizer setting values.

33. (Currently Amended) The method of claim 30, further comprising playing the media item using the ~~not more than m~~ identified filters.

34. (Previously Presented) The method of claim 30, further comprising determining that the n-band graphic equalizer setting values associated with the media item have changed.

35. (Currently Amended) The method of claim 34, further comprising receiving changed n-band graphic equalizer setting values to be associated with the media item from a user interface of a ~~the~~ portable media device.

36. (Previously Presented) The method of claim 35, further comprising associating the changed n-band graphic equalizer setting values with the media item.

37. (Previously Presented) The method of claim 35, further comprising, in response to receiving the changed n-band graphic equalizer settings, generating a second set of m filters to approximate the changed n-band graphic equalizer settings.

38. (Canceled).

39. (Previously Presented) The method of claim 37, wherein determining that the n-band graphic equalizer setting values associated with the media item have changed and generating the second set of m filters are performed during the playing of the media item.

40. (Currently Amended) The method as recited in claim 30, wherein the identified plurality of filters comprise second order recursive filters.

41. (Currently Amended) A portable media device comprising:
a communications module to receive a media item from a host computer having greater computational resources than the portable media device, and to further receive equalizer setting information from the host computer, the equalizer setting information being only associated with the received media item;

a data store for storing the received media item and the associated equalizer setting information received from the host computer; and

a processor operatively connected to the data store, wherein the processor operates to acquire equalizer setting values based on the equalizer setting information, to approximate

the equalizer setting values with a reduced filter order approximation, and to present the media item in accordance with the reduced filter order approximation,

wherein the processor approximates the equalizer setting values with a reduced filter order approximation by:

identifying more than m ~~a plurality of~~ filter patterns in a composite frequency response shape representing the equalizer setting values, each filter pattern corresponding to a predetermined filter type from a set of filter types;

creating a plurality of identified filters by ~~identifying, for each identified filter pattern, creating~~ a filter of the predetermined filter type for each of the more than m identified filter patterns corresponding to the identified filter pattern;

determining parameters for each identified filter ~~of the plurality of filters~~ such that the plurality of identified filters approximates the composite frequency response shape representing the equalizer setting values;

assigning a weighting value priority to each of the plurality of identified filters, wherein each weighting value is assigned based upon how much of an impact the corresponding filter has on the composite frequency response shape; and

limiting the number of the plurality of identified filters ~~to not more than by~~ selecting the m filters having the highest weighting values a predetermined number ~~allowed by the portable media device based on the priority assigned to each of the plurality of filters.~~

42. (Previously Presented) The portable media device of claim 41, further comprising a coder/decoder (CODEC) to receive the presentation of the media item in accordance with the reduced filter order approximation and to generate an analog output signal representing the media item in accordance with the reduced filter order approximation.

43. (Previously Presented) The portable media device of claim 42, further comprising a speaker coupled to the CODEC, wherein the speaker converts the analog output signal to sound, wherein the sound is substantially similar to sound produced when the media item is played on the host computer in accordance with the equalizer information associated with the media item.

44. (Previously Presented) The portable media device of claim 41, wherein the equalizer setting information associated with the media item received from the host computer is configured to be used by host computer to present the media item, the equalizer setting information being related to a graphic equalizer requiring greater computational resources than available from the processor of the portable media device for the purpose of implementing a graphic equalizer on the portable device.

45. (Currently Amended) A computer-readable medium having stored thereon data representing instructions that, when executed by the processor of a portable device capable of playing media items, cause the processor to perform operations comprising:

receiving a media item and n-band graphic equalizer setting values only associated with the received media item from a host device; ~~wherein the host device has greater computational resources than the portable device;~~ and

generating m filters to approximate the n-band graphic equalizer settings, where m is less than n, by:

identifying more than m ~~a plurality of~~ filter patterns, in a composite frequency response shape representing the n-band graphic equalizer setting values, each filter pattern corresponding to a predetermined filter type from a set of filter types;

~~for each identified filter pattern~~, creating a plurality of identified filters by identifying ~~creating~~ a filter of the predetermined filter type for each of the more than m identified filter patterns; corresponding to the identified filter pattern; determining parameters for each identified filter of the plurality of filters such that the plurality of identified filters approximates the composite frequency response shape representing the n-band graphic equalizer setting values; assigning a weighting value priority to each of the plurality of filters, wherein each weighting value is assigned based upon how much of an impact the corresponding filter has on the composite frequency response shape; and limiting the number of the plurality of identified filters ~~to not more than m~~ by selecting the m filters having the highest weighting values based on the priority assigned to each of the plurality of filters.

46. (Previously Presented) The computer-readable medium of claim 45, wherein the set of filter types comprises a low-shelf filter, a high-shelf filter, and a parametric filter.

47. (Currently Amended) The computer-readable medium of claim 46, wherein the processor creates ~~identifies~~ the plurality of identified filter patterns in the composite frequency response shape representing the n-band graphic equalizer setting values by identifying at most one low-shelf filter pattern, at most one high-shelf filter pattern, and one or more parametric filter patterns in the composite frequency response shape representing the n-band graphic equalizer setting values.

48. (Currently Amended) The computer-readable medium of claim 45, further comprising playing the media item using the ~~not more than~~ m filters.

49. (Previously Presented) The computer-readable medium of claim 48, wherein the instructions further cause the processor to determine that the n-band graphic equalizer setting values associated with the media item have changed and receiving changed n-band graphic equalizer setting values to be associated with the media item from a user interface of the portable media device from a user interface of the portable media device.

50. (Previously Presented) The computer-readable medium of claim 49, wherein the instructions further cause the processor to associate the changed n-band graphic equalizer setting values with the media item.

51. (Previously Presented) The computer-readable medium of claim 50, wherein the instructions further cause the processor to, in response to receiving the changed n-band graphic equalizer settings, generate a second set of m filters to approximate the changed n-band graphic equalizer settings.

52. (Previously Presented) The computer-readable medium of claim 51, wherein determining that the n-band graphic equalizer setting values associated with the media item have changed and generating the second set of m filters are performed during the playing of the media item.

53. (Currently Amended) The computer-readable medium as recited in claim 45, wherein the plurality of identified filters comprise second order recursive filters.